

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner For Patents
Washington, D.C. 20231

| | | |
|-----------------------------|---|------------------|
| In Re Application Of: | § | |
| James M. Souza, Glen Davis, | § | Art Unit: 1771 |
| and Billy H. Davidson | § | |
| | § | Examiner: |
| Serial No.: 09/594,621 | § | Jennifer A. Boyd |
| | § | |
| Filed: June 15, 2000 | § | |
| | § | Attorney Docket |
| For: COMPOSITE STRUCTURAL | § | No.: 00PAT16 |
| REINFORCEMENT DEVICE | § | |

LISTING OF CLAIMS
(Accompanying Third Amendment)

A listing of all claims of the identified application is provided on the following pages. Claims being amended in the current amendment are designated as currently amended and are marked to indicate additions by underlining. No deletions are made in the claims currently being amended.

1. (Currently Amended) A magnetically detectable composite structural reinforcement device to be applied to a structural member in a plurality of overlying layers, comprising

5 a first elongate generally planar ply formed of a high tensile strength material impregnated with a curable resin, said first ply having a longitudinal axis and first and second edges;

a second elongate generally planar ply formed of a high tensile strength material impregnated with a curable resin, said second elongate ply having a longitudinal axis and first and second edges, said second ply disposed in overlying relation to said first ply with said longitudinal axes and said edges of said plies in alignment; and

10 an elongate generally planar detectable ply formed of magnetically detectable material, said detectable ply having a longitudinal axis and first and second edges, said detectable ply disposed and interconnected between said first and second plies with said first and second edges of said detectable ply in mutual alignment with said first and second edges of said first and second plies;

15 said plies bonded together to form a continuous elongate magnetically detectable body having a longitudinal axis parallel to said longitudinal axes of said plies, having an upper face and a lower face, and having first and second edges.

2. (Original) The composite structural reinforcement device of Claim 1, wherein said detectable ply comprises an open mesh formed of a ferrous metal.

20 3. (Original) The composite structural reinforcement device of Claim 1, wherein said detectable ply comprises a thin sheet of ferrous metal.

4. (Original) The composite structural reinforcement device of Claim 3, wherein said sheet

is penetrated by a plurality of perforations.

5. (Original) The composite structural reinforcement device of Claim 1, wherein said detectable ply comprises a plurality of thin narrow bands of ferrous metal disposed in spaced relation between said first and second plies.

5 6. (Original) The composite structural reinforcement device of Claim 1, wherein said detectable ply comprises a multiplicity of discrete particles of magnetically detectable material disposed between said first and second plies.

7. (Previously Presented) The composite structural reinforcement device of Claim 1, further comprising interlock means formed on said upper face and said lower face of said body for the purpose of forming a mechanical interlock between said faces during application of the device to a structural member so as to resist longitudinal movement of said faces relative to each other.

10 8. (Original) The composite structural reinforcement device of Claim 7, wherein said interlock means comprises a multiplicity of serrations formed in said upper face and in said lower face of said body between said edges thereof in generally perpendicular relation to said longitudinal axes of said plies.

15 9. (Previously Presented) The composite structural reinforcement device of Claim 1, further comprising alignment means disposed in directly opposed relation on said upper and lower faces of said body for the purpose of aligning successive layers of the device during application of the device to a structural member.

20 10. (Original) The composite structural reinforcement device of Claim 9, wherein said alignment means comprises a longitudinal groove extending into said body from one of said faces thereof and extending along said body parallel to said longitudinal axis thereof, and a matching

longitudinal projection extending outwardly from the other of said faces thereof and extending along said body parallel to said longitudinal axis thereof directly opposite said groove, so that said projection is received in said groove as the device is applied in overlying layers to a structural member.

5 11. (Original) The composite structural reinforcement device of Claim 10, wherein a first said alignment means is disposed in proximity to said first edge of said body, and wherein a second said alignment means is disposed in proximity to said second edge of said body.

12. (Previously Presented) A composite structural reinforcement device to be applied to a structural member in a plurality of overlying layers, comprising

10 a continuous elongate body formed of high tensile strength material impregnated with a curable resin, said body having a longitudinal axis, having an upper face and a lower face, and having first and second edges; and

interlock means formed on said upper face and said lower face of said body for the purpose of forming a mechanical interlock between said faces during application of the device to a structural member so as to resist longitudinal movement of said faces relative to each other.

15 13. (Original) The composite structural reinforcement device of Claim 12, wherein said interlock means comprises a multiplicity of serrations formed in said upper face and in said lower face of said body between said edges thereof in generally perpendicular relation to said longitudinal axis of said body.

20 14. (Original) The composite structural reinforcement device of Claim 13, further comprising alignment means for the purpose of aligning successive layers of the device during application of the

device to a structural member.

15. (Original) The composite structural reinforcement device of Claim 14, wherein said alignment means comprises a longitudinal groove extending into said body from one of said faces thereof and extending along said body parallel to said longitudinal axis thereof, and a matching longitudinal projection extending outwardly from the other of said faces thereof and extending along said body parallel to said longitudinal axis thereof directly opposite said groove, so that said projection is received in said groove as the device is applied in overlying layers to a structural member.

16. (Original) The composite structural reinforcement device of Claim 12, further comprising magnetic detection means formed of magnetically detectable material interconnected to said body.

17. (Previously Presented) A composite structural reinforcement device to be applied to a structural member in a plurality of overlying layers, comprising

a continuous elongate body formed of high tensile strength material impregnated with a curable resin, said body having a longitudinal axis, having an upper face and a lower face, and having first and second edges; and

alignment means formed in directly opposed relation on said upper face and said lower face of said body for the purpose of aligning successive layers of the device during application of the device to a structural member.

18. (Original) The composite structural reinforcement device of Claim 17, wherein said alignment means comprises a longitudinal groove extending into said body from one of said faces thereof and extending along said body parallel to said longitudinal axis thereof, and a matching longitudinal projection extending outwardly from the other of said faces thereof and extending along

said body parallel to said longitudinal axis thereof directly opposite said groove, so that said projection is received in said groove as the device is applied in overlying layers to a structural member.

19. (Original) The composite structural reinforcement device of Claim 18, further comprising
5 interlock means having a multiplicity of serrations formed in said upper face and in said lower face of said body between said edges thereof in generally perpendicular relation to said longitudinal axes of said plies, for the purpose of forming a mechanical interlock between said faces during application of the device to a structural member.

20. (Original) The composite structural reinforcement device of Claim 17, further comprising
10 magnetic detection means formed of magnetically detectable material interconnected to said body.

21. (Currently Amended) A magnetically detectable composite structural reinforcement device to be applied to a structural member in a plurality of overlying layers, comprising

a continuous elongate body formed of a high tensile strength material impregnated with a curable resin, said body having a longitudinal axis, having an upper face and a lower
15 face, and having first and second edges; and

magnetic detection means formed of magnetically detectable material interconnected to said body whereby said body is magnetically detectable.

22. (Original) The composite structural reinforcement device of Claim 21, wherein said magnetic detection means comprises a multiplicity of particles of magnetic material attached to at
20 least one of said faces of said body.

23. (Original) The composite structural reinforcement device of Claim 21, wherein said magnetic detection means comprises a multiplicity of particles of magnetic material embedded

within said body.

24. (Original) The composite structural reinforcement device of Claim 21, wherein said high tensile strength material is formed of fibers and wherein said magnetic detection means comprises fibers of magnetically detectable material intermixed with said fibers of said high tensile strength material.

25. (Original) The composite structural reinforcement device of Claim 21, wherein said magnetic detection means comprises a ply of magnetically detectable material bonded to at least one of said faces of said body.